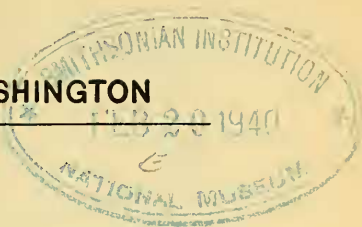


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DICHAPETALACEA ET EUPHORBIACEAE NOVAE.

BY LOUIS CUTTER WHEELER

One new species of *Stephanopodium* from Colombia, and two new species of *Euphorbia*, one from the Big Bend area of Texas and the other from the Central Valley of California, are described in this paper. Further evidence is offered concerning the correct application of the names of two Linnaean species of *Euphorbia*. A much earlier name of Rafinesque's is shown to be conspecific with one of Englemann's *Euphorbiae*. Finally, two varietal combinations are made.

STEPHANOPODIUM aptotum, sp. nov. Folia elliptica vel elliptico-oblancoolata, acuminata, 12.5-15 cm. longa, integra, subcoriacea, penninervia; petioli crassi, 8-10 mm. longi, glabri; flores supra medium petiolum inserti, cymosi, 4-9; pedicellis 2-3 mm. longis, puberulentis, apice articulatis; calyx campanulatus; sepala oblonga, imbricata, inaequala, basi breviter connata, intus glabra, extus strigosa; corolla glabra, tuba cylindrica calycem subaequantis; lobis oblongo-ovatis, basi subsagittatis; glandulae hypogyneae subrectangulares; germen 3-loculis, breviter pubescentis; styli rami 3, 1 mm. longi.

Typus: Santa Marta, Colombia, *H. H. Smith*, 1701 in hb. Gray.

Habit unknown; branches woody, glabrous; leaf-blades elliptic to elliptico-oblancoolate, shortly acuminate, 12½-15 cm. long, 4½-6 cm. wide, glabrous, sub-coriaceous, entire, pinnately nerved; petioles 8-10 mm. long, glabrous, strongly wrinkled; stipules not seen; cyme 4-9-flowered, borne about 2/3 of way up petiole; pedicels puberulent, 3-4 mm. long, markedly articulated with the stipe of the flower; stipe ca. 1 mm. long; flower 9-11 mm. long including stipe; calyx campanulate, lobes oblong, markedly unequal, shortly strigose without, bordered, especially the longer, by a subglabrous zone next to the ciliate margin, glabrous within; corolla tube equalling or slightly exceeding the calyx; corolla glabrous throughout, cylindrical, lobes oblong-ovate, base sub-sagittate; anthers sessile, 1.1-1.3 mm. long; hypogynous glands subrectangular, adnate below to the corolla; ovary shortly pubescent, 3-loculed; style branches 3, ca. 1 mm. long.

Type: Santa Marta, Colombia, *H. H. Smith* 1701 (Gray Herb.).

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This species belongs to sect. *Isorthsiphon* Baillon. It is easily distinguished from the four previously described species of this genus by the three style branches and the 3-celled ovary.

H. H. Smith 1701 is cited by Rusby, *Descr. 300 New Species S. Am. Pl.*, 55, 1920, as *Rhamnus atroviridis* but the plant there described is quite different. Examination of the type at New York Botanical Garden proved that it is *Rhamnus*. The field tag bearing the number 1701 is still attached to one of the branches of the specimen here described as a new species.

The basic work on the vascular anatomy of epiphyllous inflorescences is: Candolle, Casimir de, 1890. *Recherches sur les inflorescences épiphyllées. Mémoires de la Société de Physique et d'Histoire de Genève. Volume supplémentaire, 1890.—No. 6. 37 pp., Pl. I–II.*

EUPHORBIA Golondrina sp. nov. Annuua, glabra; caulibus prostratis, ramosis, usque ad 15 cm. longis, tenuibus, internodiis usque ad 2 cm. longis; laminis foliorum 6–9 mm. longis, oblongis, integris; petiolis ca. 1 mm. longis; cyathia in axillis solitariis, turbinatis, cum diametro 1.1–1.3 mm.; glandulis saepe suborbiculatis; appendiculis glabris, albis, semi-lunatis; florum masculorum 39–50 per cyathium; stylis fere ad basim partitis, ca. 0.4 mm. longis; capsula late ovoidea, 3-angulata, ca. 1.8 mm. longa; seminibus subtetragonis, ca. 1.8 mm. longis, irregulariter leviterque rugulosis.

Annual, glabrous; stems prostrate, to 15 cm. long, 0.7–1.5 mm. thick, internodes up to 2 cm. long; leaf-blades mostly 6–9 mm. long, oblong to narrowly oblong or even narrowly elliptic, entire, base inaequilateral; petioles ca. 1 mm. long, amplexicaul; stipules 0.7–1 mm. long, mostly glabrous, ventral united into a median, subulate, often bifid structure, dorsal distinct, linear; peduncles 1–1.5 mm. long; cyathia solitary in the axils; involucre turbinata, 1.1–1.3 mm. diam., glabrous without, glabrous within except for short hairs at base of lobes, gland stipes and a line extending half-way down below the stipes; lobes slenderly deltoid-attenuate, not quite equaling the glands; glands subcircular or a little longer than wide, deeply concave, sometimes folded together, 0.3–0.5 mm. in diam.; appendages white, glabrous, entire, forming a semi-lunate margin to the gland, 0.2–0.5 mm. wide; sinus U-shaped, slightly depressed, short-hairy; 5th gland linear, equaling the lobes and clothed like them; bracteoles more or less united together below and adnate to the involucre, free ends linear, short-hairy; staminate flowers 8–10 per fascicle, 39–50 per cyathium; androphores ca. 1.5 mm. long, glabrous; gynophore glabrous, exerted and reflexed at maturity; ovary glabrous, obtusely 3-angled; styles ca. 0.4 mm. long, glabrous, parted nearly to the base, slightly clavate; capsule broadly ovoid, glabrous, 3-angled, ca. 1.8 mm. long; seeds 1.6–1.8 mm. long, subquadrangular, narrowly ovate radially, base truncate, ca. 0.8 mm. radially and tangentially, facets slightly convex, irregularly wrinkled, dorsal and lateral angles blunt, raphe so low and blunt as to scarcely separate the front facets.

Type: Along sandy beach at entrance to Boquillas Canyon, Chisos Mountains Area, Brewster County, Texas, Aug. 5, 1937, *B. H. Warnock 998* (U. S. Nat. Herb. #1726028).

This species is another drab member of *Euphorbia* subgenus *Chamaesyce* Raf. It is possessed of no striking characters but nevertheless is distinguishable from its relatives by sufficiently definite characters. The combination of foliage glabrous save for perhaps occasionally a few hairs on the stipules, glands circular or nearly so yet with evident white appendage, tetragonal seeds, and 39–50 staminate flowers per cyathium, is an exclusive combination of characters.

The specific name is the common Spanish name used by the Mexicans for many small prostrate spurges of this subgenus: "Yerba de la Golondrina" or often merely "Golondrina." This seemingly irrelevant appellation is derived, Professor Maximino Martinez informs me, from the popular belief that the swallows which skim close to the ground upon which these spurges lie are feeding on the seeds.

EUPHORBIA Hooveri sp. nov. Annuā, glabra; caulibus prostratis vel decumbentibus; foliis breviter petiolatis, orbiculato-cordata vel orbiculato-reniformis, papillatis, acutiuscule serratis; stipulis connatis, profunde laceratis; cyathia in axillis solitariis; involucris glabris, campanulatis; glandulis transverse ovatis; appendicibus albis, in 3–5 segmenta linearia partitis; lobis longissimis, latissimis, apicem versus profunde partitis, laciniis digitos ranae simulantibus; florum masculorum 30–35 per cyathium; stylis integris, longissimis, capsulas superantibus; capsulae glabrae, coccis rotundatis; seminibus ovoideo-tetragonis, albis, irregulariter rugosis.

Annual; stems prostrate or decumbent, to 20 cm. long, glabrous, from 1 mm. in diam. near the tips to as much as 3.5 mm. in diam. at the base, internodes as much as 1.5 cm. long, shorter toward the stem tips; petioles ca. 0.5 mm. long; blades 2–5 mm. long, orbicular-cordate to orbicular-reniform, glabrous, papillate, margin with sharp white teeth; stipules united, white, deeply lacerate; peduncles ca. 0.5 mm. long; cyathia solitary in the axils; involucre 1.7–2 mm. in diam., campanulate, glabrous without and within except beneath the glands; lobes much exceeding the glands, narrowly deltoid, lacinate; glands transversely oval, ca. 0.5 mm. long, slightly cupped, at first red, then olive; appendages white, glabrous, parted into 3–5 ligules ca. 1 mm. long; 5th gland of 1 or 2 filiform segments equaling the lobes; sinus narrowly V-shaped, not depressed; bracteoles united only at the base, filiform, sparsely hairy, ca. 2/3 as long as the androphores, forming a radial row opposite each gland; staminate flowers 30–35 per cyathium, 6–7 per fascicle; androphores 2–2.1 mm. long, glabrous; gynophore glabrous, long-exserted and reflexed at maturity; ovary glabrous, 3-lobed; styles 1.7–2 mm. long, entire; capsule spheroid with flattened base, roundly 3-lobed, glabrous, 1.6–1.9 mm. long; seeds ovoid-quadrangular, rotund-ovate radially, raphe slightly curved, back semi-circular, facets covered with low irregular, smooth ridges, 1.4–1.6 mm. long, 1–1.1 mm. tangentially and radially, coat white and microreticulate.

Type: Yettē, Tulare County, California, June 30, 1937, *R. F. Hoover 2583* (Gray Herb.). Other collections are: Yettē, Tulare County, California, June 4, 1936. *R. F. Hoover 1277* (Gray Herb.); 4 miles southeast of Vina, Tehama County, California, Aug. 2, 1938, *R. F. Hoover 3722* (Gray Herb.).

Dr. Robert F. Hoover, discoverer of this remarkable plant, has supplied the following field notes: "It grew under peculiar conditions: in the dry alkaline bed of a rain-pool, where the soil was bare except for a very sparse growth of *Distichlis stricta*, *Cressa truxillensis*, and *Marsilea vestita*, near Yettum, Tulare County. The leaves are covered with minute projections which in the fresh plants looked like minute water vesicles." This adds another plant to the peculiar rain-pool vegetation of the Great Valley of California.

This is as unique a member of *Euphorbia* subgenus *Chamaesyce* Raf. as *E. Golondrina* is ordinary. The papillate epidermis, lobes much exceeding the glands, combined with the extremely long, yet entire, styles serve to readily distinguish this species from all its congeners. The problem of its origin is very puzzling. It appears to have certain qualities, mainly such vague qualities as aspect and texture of the foliage, which suggest a relationship with the peculiar race, with 11-17 staminate flowers (rather than 5-10) and sharply toothed appendages, of *Euphorbia serpyllifolia* Persoon found in central California and represented, e. g., by H. K. Sharsmith 3868, Arroyo Bayo, Mount Hamilton Range, Santa Clara County (Gray Herb.).

EUPHORBIA HYPERICIFOLIA L., Sp. Pl. 1 : 454. 1753. At Field Museum are two valves of the capsule and a seed from the type. These fragments support my conclusion, Contr. Gray Herb. 127 : 73-74. 1939, that *E. hypericifolia* should be applied to the plant generally known as *E. lasiocarpa* Klotzsch.

EUPHORBIA MACULATA L., Sp. Pl. 1 : 455. 1753. This name is properly applied to the plant commonly known as *Euphorbia nutans* Lag., *Chamaesyce nutans* (Lag.) Small, Fl. SE. U. S., 712, 1333. 1903; or *Euphorbia Preslii* Guss., Fl. Sic. Prod. 1 : 539. 1827, *Chamaesyce Preslii* (Guss.) Arthur, Torreyia 11 : 260. 1912. It is rather amazing that the misapplication of this name to the small-leaved, generally prostrate plant properly known as *Euphorbia supina* Raf., Amer. Monthly Mag. 2 : 119. 1817, should have continued so long. Photographs of the type of *E. maculata* are at both Field Museum and Gray Herbarium. In Contr. Gray Herb. 127 : 74-76, I have reviewed the history of this misapplication.

EUPHORBIA MISSURICA Raf., Atlantic Journ. 1 : 146. 1832; based on "E. PORTULACOIDES WILLD.?" sensu Torrey, Ann. N. Y. Lyceum 2 : 244. 1827. Torrey had an original diagnosis, and the specimens on which it was based are still preserved at New York Botanical Garden. The only possible ground for challenging the validity of Rafinesque's new name is the question as to whether Rafinesque gave a sufficiently clear reference to satisfy the requirements of International Rules of Botanical Nomenclature, ed. 3, Art. 44. Rafinesque, p. 144, commenced his article "7. Twenty new genera of plants from the Oregon Mountains &c." in these words: "My friend Dr. John Torrey of New York is one of the best Botanists of our country; . . . Thus in his valuable account of the 491 plants collected in or near the Oregon Mts. by Dr. James, published in 1827, he has described many plants in ambiguous terms . . ." With this much information it is an easy matter to locate the paper by means of the standard reference Catalogue of Scientific Papers (1800-1863) compiled by the Royal Society of London,

vol. 6 : 10. 1872, where, under Torrey, John, entry 8, the paper is listed. In this case Rafinesque was accurate in giving 1827 as the date of publication and the "Roy. Soc. Cat." erred in giving 1828, which was the final date of the volume. Rafinesque erred as to "491 plants" for there were 481, but that does not affect the validity of the reference. This case is important not merely for this one name. There are several other names involved. Gleason, N. Amer. Fl. 33 : 91. 1922, accepted the combination "*Vernonia marginata* (Torr.) Raf., Atl. Jour. [1]:146. 1832" based on *V. altissima* var. *marginata* Torr., Ann. Lyc. N. Y. 2 : 210. 1827. *Euphorbia missurica* Raf. is an earlier name for *E. zygophylloides* Boiss., Cent. Euph., 10. 1860, *Chamaesyce zygophylloides* (Boiss.) Small in Britton & Brown, Ill. Fl., ed. 2, 2 : 161. 1913; *Euphorbia Nuttallii* (Engelm.) Small in Britton & Brown, Ill. Fl. 2 : 371. 1897, *Chamaesyce Nuttallii* (Engelm.) Small, Fl. SE U. S., 711, 1333. 1903.

EUPHORBIA MISSURICA Raf. var. *intermedia* (Engelm.) comb. nov.; based on *Euphorbia petaloidea* Engelm. β *intermedia* Engelm. in Emory, U. S. & Mex. Bound. Surv. 2 (1):185. 1859. *E. petaloidea* a *Nicolletii* Engelm., l. c. is synonymous.—This variety intergrades completely with the species. However, the intergradation occurs in the zone where the ranges of the two overlap rather than throughout the range of both. Consequently the variety is worthy of recognition. It ranges from Minnesota west to North Dakota and Wyoming, thence south to Texas and New Mexico. In contrast to this, the species occupies a much more restricted range as it occurs only from Missouri and Kansas south to northwestern Arkansas and Texas.

EUPHORBIA SERPYLLIFOLIA Pers. var. *hirtula* (Engelm.) comb. nov.; based on *E. hirtula* Engelm. ex S. Watson, Bot. Calif. 2 : 74. 1880. The only definite distinction between this variety and the species is the presence of hairs in the variety. Usually this distinction is definite, but in some collections there are villous plants, plants with a few scattered hairs, and completely glabrous plants. Previously, Bull. So. Calif. Acad. Sci. 33 : 111. 1934, I had thought that there were other distinctions, but examination of hundreds of collections of the species and dozens of the variety has shown that these supposed distinctions fail in too many cases to be useful.

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